

subframe member 58 through bracket 60 which provides a rigid connection between the subframe members 54 and the transverse subframe member 58. A grading blade 60 is secured to the transverse subframe member 58 and is adapted to engage the soil as will hereinafter be explained. The subframe members 54 adjacent the side frame members 20 and 22 are provided with extensions 62 which are slidably received in a gap 64 defined between a first set of spaced apart channel members 66, which extend upwardly from main frame member 16 and are secured to the lip 34 adjacent the side frame member 22, and a second set of channel members 68, which are similarly secured to the lip 34 of main frame member 16 adjacent the side frame member 20. The channel member 66, 68 are each provided with registering apertures 70, which receive a removable clinch pin 72 as will hereinafter be described. The width of the gap 64 is sufficient to permit the extensions 62 to move up and down within the gap 64 while the channel members restrain transverse movement of the subframe members 54.

In operation, and referring to FIG. 4, the implement 10 is illustrated as being used in the normal manner. Because of the pivotal connection between the subframe 56 and the main frame 12, the blade 60 is permitted to "float" as the implement is pulled along a path over the ground. In this condition, the blade 60 knocks down vegetation as at 74 and collections small rocks and stones 76, and grades lightly but does not penetrate the ground to any appreciable extent. The scarifying teeth 42 are set to penetrate the ground to scarify and break up the soil, and are followed by the tines 38, which work the soil and provide a final grade, the angle of the implement 10 being set by the operator such that the scarifying teeth 42 penetrate the ground and the tines 38 engage the surface of the ground while the tines are effective in working and grading the soil. The pin 72 is placed in the uppermost of the apertures 70 to thereby limit upward movement of the subframe 56. If it is desired the movement flotation of the blade 60 to a greater extent, the pin 72 may be placed in the aperture just below the uppermost aperture.

There are situations in which it is necessary to use the blade 60 to provide a deeper penetration to level off high spots in the soil. Accordingly, the main frame 12 is raised relative to the subframe 56 such that the upper edges of the extension 62 are below the lower most of the apertures 70. As illustrated in FIG. 5, the pin 72 is placed through the normal apertures, and locks the blade 60 in the lowered position with both the scarifying teeth 42 and tines 38 raised above the surface of the soil. Accordingly, grading can be effected on an initial pass over the seedbed, which may be followed by passes in which the seedbed is scarified, worked and leveled, as indicated in FIG. 6.

In FIG. 6, an initial grade has been provided and the vegetation and rocks have been removed beforehand. The subframe 56 is raised relative to the main frame 12 and the pins 72 are placed in the uppermost apertures 70 such that the lower surfaces of 78 are engaged with the pins, thus locking the blade 60 in a position where it does not engage the soil, the main frame 12 having been set at an angle that permits the scarifying teeth to penetrate the soil and the tines 38 to engage the soil for working and providing a final grade.

There are times during landscape work when soil must be moved to fill in low spots, particularly along concrete work such as along driveways and sidewalks. Particularly with new construction, care must be taken that no substantial weight be placed on the concrete which has not yet fully cured. Accordingly, it is not permissible to drive heavy equipment, such as tractors, on or over the concrete work. Referring to FIG. 7, the lips 32, 34 of the main frame

member 16, along with the tines 38 define a scoop in which soil is caught and can be transferred to fill in low places, particularly low places adjacent concrete work generally indicated by the numeral 80. After the soil has been deposited in the low place, the soil may be worked into a final grade by using the tines 38 as above described. Accordingly, soil may be positioned accurately to fill in low places, all without driving the tractor over adjacent concrete driveways and sidewalks.

I claim:

1. Implement for working soil comprising a main frame, a hitch mounted on said main frame for attaching the main frame to a vehicle for towing the main frame along a path, said main frame extending substantially transverse to said path, multiple tines extending from the main frame, said tines being spaced from one another along said main frame, said main frame being adjustable relative to the vehicle to move the tines into engagement with soil at an angle to work and grade soil, said main frame also being adjustable relative to the vehicle to move the tines out of engagement with said soil, a subframe mounted on said main frame by a pivot connection for pivoting along a substantially horizontal axis, a blade mounted on said subframe against movement relative to the subframe, said blade extending substantially parallel to said main frame whereby said blade is permitted to move relative to said tines, said subframe being moveable about said axis from an upper position to a lowered position, and a manually releasable latching means for releasably latching said subframe in said upper position.

2. Implement as claimed in claim 1, wherein said main frame includes guides engaging said subframe for restraining said subframe against substantial movement transverse to said main frame.

3. Implement for working soil comprising a main frame including a pair of substantially parallel main frame members, a hitch mounted on one of said main frame members for attaching the frame to a vehicle for towing the frame along a path, said main frame members extending substantially transverse to said path, multiple tines extending from the other main frame member, said tines being spaced from one another along said other main frame member, said main frame being adjustable relative to the vehicle to move the tines into engagement with soil at an angle to work and grade soil, said main frame also being adjustable relative to the vehicle to move the tines out of engagement with said soil, multiple rigid scarifying teeth rigidly mounted on said other main frame member, and a blade carried by said main frame between said main frame members, said blade being movable into a position engaging soil.

4. Implement as claimed in claim 3, wherein said blade is mounted on said frame through a connection permitting relative movement between the blade and the main frame to permit the blade to follow the contours of the soil as the main frame is moved along said path.

5. Implement as claimed in claim 4, wherein said connection is a pivoting connection.

6. Implement as claimed in claim 5, wherein latching means carried by said main frame is movable into a restraining position limiting pivoting of said blade relative to said main frame.

7. Implement as claimed in claim 5, wherein latching means carried by the main frame is movable to a suspending position locking the blade to a support carried by the mainframe in a position suspending the blade above the soil when the tines engage the soil.

8. Implement as claimed in claim 5, wherein latching means carried by the main frame is movable to a position

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locking the blade to a support carried by the mainframe in a position in which the blade is maintained in engagement with the soil and the tines are suspended from the soil.

9. Implement as claimed in claim 5, wherein said other main frame member is defined by a pair of lips extending transversely to said path, said tines being mounted on one of said lips, the other lip extending from said one lip and cooperating with the one lip and said tines to form a scoop for catching soil, whereby said tines grade and work soil when the vehicle moves the implement in one direction and the scoop catches soil when the vehicle is moved in the opposite direction.

10. Implement for working soil comprising a main frame, a hitch mounted on said main frame for attaching the main frame to a vehicle for towing the main frame along a path, said main frame extending substantially transverse to said path, multiple tines extending from the main frame, said tines being spaced from one another along said main frame, said main frame being adjustable relative to the vehicle to move the tines into engagement with soil at an angle to work and grade soil, said main frame also being adjustable relative to the vehicle to move the tines out of engagement with said soil, a subframe mounted on said main frame by a pivot connection for pivoting along an axis, and a blade mounted on said subframe and extending substantially parallel to said main frame whereby said blade is permitted to move relative to said tines, said main frame including guides engaging said subframe for restraining said subframe against substantial movement transverse to said main frame, said guides including restraining members defining a channel therebetween, said subframe including a pair of subframe members spaced transversely relative to said path, each of said subframe members being attached to said main frame at said pivot connection and including an extension slidably received in a channel defined by a corresponding one of said guides.

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11. Implement as claimed in claim 10, wherein latching means carried by said guides is movable into a restraining position extending across said channel to thereby limit pivoting movement of the subframe relative to the main frame.

12. Implement as claimed in claim 11, wherein said latching means is movable to a ground engaging position engaging said extensions to lock the latter to the guides to prevent relative movement of the subframe relative to the main frame in a position in which the blade is maintained in engagement with the soil and the tines are suspended from the soil.

13. Implement as claimed in claim 10, wherein latching means carried by said guides is movable to a suspending position engaging said extensions to lock the latter to the guides to prevent relative movement of the subframe relative to the main frame in a position suspending said blade above the soil when the tines engage the soil.

14. Implement as claimed in claim 10, wherein rigid scarifying teeth are rigidly secured to said main frame and extend from said main frame at a ground-penetrating angle when the tines are engaged with said soil at the angle to work and grade said soil, said scarifying teeth being mounted between said tines and said blade.

15. Implement as claimed in claim 10, wherein said main frame includes a member defined by a pair of lips extending transversely to said path, said tines being mounted on one of said lips, the other lip extending from said one lip and cooperating with the one lip and said tines to form a scoop for catching soil, whereby said tines grade and work soil when the vehicle moves the implement in one direction and the scoop catches soil when the vehicle is moved in the opposite direction.

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